

Case 3508***Maculinea* Van Eecke, 1915 (Lepidoptera: LYCAENIDAE): proposed precedence over *Phengaris* Doherty, 1891**

E. Balletto

Dipartimento di Biologia animale, Via Accademia Albertina 13, I-10123 Torino, Italy (e-mail: emilio.balletto@unito.it)

S. Bonelli

Dipartimento di Biologia animale, Via Accademia Albertina 13, I-10123 Torino, Italy (e-mail: simona.bonelli@unito.it)

J. Settele

UFZ, Helmholtz-Centre for Environmental Research, Department of Community Ecology, Theodor-Lieser-Str. 4, 06120 Halle, Germany (e-mail: Josef.Settele@ufz.de)

J.A. Thomas

Department of Zoology, University of Oxford, The Tinbergen Building, South Parks Road, Oxford OX1 3PS, U.K. (e-mail: Jeremy.thomas@zoo.ox.ac.uk)

R. Verovnik

University of Ljubljana, Biotechnical Faculty, Department of Biology, Veèna pot 111, SI-1000 Ljubljana, Slovenia (e-mail: Rudi.Verovnik@bf.uni-lj.si)

N. Wahlberg

Department of Biology, Laboratory of Genetics, University of Turku, Turku, Finland (e-mail: nikwah@utu.fi)

Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the widely used generic name *Maculinea* Van Eecke, 1915 in its accustomed usage. The name *Maculinea* Van Eecke, 1915 is threatened by its senior synonym *Phengaris* Doherty, 1891. It is proposed that *Maculinea* be given precedence over the other name whenever the two are considered to be synonyms.

Keywords. Nomenclature; taxonomy; Lepidoptera; LYCAENIDAE; *Maculinea*; *Phengaris*; Eurasia.

1. The genus-group name *Maculinea* Van Eecke, 1915 (p. 28), type species *Papilio alcon* Denis & Schiffermüller, 1775 (p. 182) by subsequent designation by Graves (1928, p. 102) (see Opinion 503, Opinions and Declarations, 3 March 1958, **18**: 121–140) has been universally used for the European and Asian ‘Large Blue’

butterflies for almost a century. This involves the old and the recent scientific literature alike, as well as all standard reference books on European butterflies (Higgins & Riley, 1970; Tolman & Lewington, 1997; Asher et al., 2001, etc.). The names *Maculinea* Van Eecke, 1915 and *Papilioalcon* Denis & Schiffermüller, 1775 are entered on the Official List of Names in Zoology.

2. The obligate myrmecophilous life-style of *Maculinea* has attracted a vast number of studies, many of which appeared in leading scientific journals. *Maculinea* is a model organism for studies on the origin and evolution of parasitic interactions and of host-parasite communication channels (Fiedler, 1998; Als et al., 2004; Thomas & Settele, 2004; Hovestadt et al., 2007; Barbero et al., 2009; Nash et al., 2009). *Maculinea* are also keystone species and have attracted a great deal of attention from a conservationist's point of view (Munguira et al., 1999; Van Swaay & Warren, 2003; Thomas et al., 2009; Settele & Kühn, 2009). All species are afforded legal protection, exclusively under the generic name of *Maculinea*, from collectors, trade and habitat destruction in EU and many national and regional laws.

3. Since the publication of Fiedler's (1998) work comparing the life histories of myrmecophilous lycaenids biologists have become increasingly aware that butterflies of the genus *Maculinea* may be closely related to those of the East Asian genus *Phengaris* Doherty, 1891. The type species of *Phengaris* is *Lycaena atroguttata* Oberthür, 1876, by monotypy.

4. Some recent publications (Als et al., 2004; Pech et al., 2004; Fric et al., 2007) have confirmed based on both molecular and morphological data that species of *Maculinea* and *Phengaris* form a monophyletic group. Fric et al. (2007) have proposed a series of new combinations where all recognised *Maculinea* taxa are listed under *Phengaris*, and consider the two genus-group names to be synonyms.

5. *Maculinea* has long been considered to include six species, all Palaearctic. Of these, five species occur in Europe and one (*M. arionides*) is East Palaearctic. One additional species was described by Sibatani et al. (1997) from Korea and another four or more nominal taxa, mainly from China and Japan, may be specifically distinct (Fric et al., 2007). *Phengaris* has attracted much less research. It includes three species, mainly from China and Japan.

6. A Google search provided a total of 20,400 'hits' of various origins dealing with either *Maculinea* or *Phengaris*. More specifically, the name *Maculinea* was used well over 30 times more often than the name *Phengaris* to designate the 6 'classical' species, as detailed in the following table.

7. Strict application of the Code would result in considerable nomenclatural confusion. Although the 'new' combinations proposed by Fric et al. (2007) are slowly entering the scientific literature, they are in fact mainly restricted to taxonomic papers. Given the importance of *Maculinea* as a model system and the use of this name in recent European conservation legislation, its synonymisation with *Phengaris* will probably continue to be ignored by most ecologists and conservation biologists, while being followed by taxonomists. This will lead to nomenclatural confusion. We propose that, to ensure nomenclatural stability, the Commission rules to give priority to *Maculinea* Van Eecke, 1915 over *Phengaris* Doherty, 1891 in its accustomed usage whenever the two generic names are considered to be synonyms.

8. The International Commission on Zoological Nomenclature is accordingly asked:

<i>Maculinea</i>		<i>Phengaris</i>	
<i>Maculinea arion</i>	18,900	<i>Phengaris arion</i>	1,000
<i>Maculinea arionides</i>	3,340	<i>Phengaris arionides</i>	657
<i>Maculinea alcon</i>	75,200	<i>Phengaris alcon</i>	1,020
<i>Maculinea rebeli</i>	49,900	<i>Phengaris rebeli</i>	1,590
<i>Maculinea teleius</i>	45,900	<i>Phengaris teleius</i>	878
<i>Maculinea nausithous</i>	17,700	<i>Phengaris nausithous</i>	1,230
TOTAL	210,940		6,375
—		<i>Phengaris albida</i>	619
—		<i>Phengaris atroguttata</i>	1,310
—		<i>Phengaris daitozana</i>	654
TOTAL			2,583

- (1) to use its plenary power to give the name *Maculinea* Van Eecke, 1915 precedence over the name *Phengaris* Doherty, 1891, whenever the two are considered to be synonyms;
- (2) to emend the entry for the generic name *Maculinea* Van Eecke, 1915, type species *Papilio alcon* Denis & Schiffermüller, 1775 by subsequent designation by Graves (1928), in the Official List of Generic Names in Zoology to endorse that the name *Maculinea* Van Eecke, 1915 is to be given precedence over the name *Phengaris* Doherty, 1891, whenever the two are considered to be synonyms;
- (3) to place on the Official List of Generic Names in Zoology the name *Phengaris* Doherty, 1891 (genus: feminine), type species *Lycaena atroguttata* Oberthür, 1876 by monotypy, with the endorsement that it is not to be given priority over the name *Maculinea* Van Eecke, 1915, whenever the two are considered to be synonyms;
- (4) to place on the Official List of Specific Names in Zoology the name *atroguttata* Oberthür, 1876, as published in the binomen *Lycaena atroguttata* (specific name of the type species of *Phengaris* Doherty, 1891).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).